

We claim:

1-5. (Canceled).

6. (Original) The DNA sequence according to SEQ ID NO:5.

7. (Original) A transformation vector containing SEQ ID NO:5.

8-15. (Canceled).

16. (New) A process for selecting yeast transformants useful in the production of a eukaryotic alkaline phosphatase, said process comprising the steps of:

- transforming yeast cells with a vector comprising a resistance gene for a first selection marker and the alkaline phosphatase gene;
- selecting transformants that grow in medium containing a first concentration of the first selection marker;
- further transforming the selected transformants with a vector comprising a resistance gene for the first selection marker and the alkaline phosphatase gene;
- identifying transformants that have incorporated multiple copies of the alkaline phosphatase gene by selecting those transformants that grow in medium containing a second concentration of the first selection marker, said second concentration being higher than the first concentration;
- further transforming the identified transformants with a vector comprising a resistance gene for a second selection marker and the alkaline phosphatase gene; and
- selecting transformants that grow in medium containing the second selection marker .

17. (New) The process according to claim 16, wherein the gene sequence for the alkaline phosphatase corresponds to SEQ ID NO:1.

18. (New) The process according to claim 16, wherein the gene sequence for the alkaline phosphatase corresponds to SEQ ID NO:5.
19. (New) The process as claimed in claim 16, wherein methylotrophic yeast cells are used.
20. (New) The process as claimed in claim 16, wherein *Pichia pastoris* or *Hansenula polymorpha* is used as the yeast strain.
- C 21. (New) The process as claimed in claim 16, wherein the transformants that grow in medium containing the second selection marker are transformed at least once more with a vector comprising a resistance gene for the second selection marker and the alkaline phosphatase gene and the transformants that grow in medium containing the second selection marker are selected.
22. (New) A process for selecting yeast transformants useful in the production of a eukaryotic alkaline phosphatase, said process comprising the steps of:
- transforming yeast cells more than one time with a vector comprising a resistance gene for a first selection marker and the alkaline phosphatase gene;
 - identifying transformants that have incorporated multiple copies of the alkaline phosphatase gene by selecting those transformants that grow in medium containing a concentration of the first selection marker;
 - further transforming the identified transformants with a vector comprising a resistance gene for a second selection marker and the alkaline phosphatase gene; and

- selecting transformants that grow in medium containing the second selection marker .

23. (New) A process for the production of a eukaryotic alkaline phosphatase in yeast cells comprising the steps: a) selecting a transformant using the process of claim 16, 21 or 22; b) expressing the alkaline phosphatase; and c) purifying the alkaline phosphatase.

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